Comparison Between 20 and 30 Meters in Walkway Length Affecting the 6-Minute Walk Test in COPD Patients

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Rationale: A 30-m walkway length of the 6-minute walk test (6MWT) is the standard recommendation established by the American Thoracic Society for assessing COPD patients. A 20-m course has not been validated in this group.

Objective: To compare between the distances of 20 and 30 m long corridor affecting 6MWT in COPD patients.

Methods: A cross-sectional study was conducted between June 2018 - January 2019 in Thammasat University Hospital, Thailand. COPD patients with ≥10 pack-year smoking history and post-bronchodilator FEV$_1$/FVC<70% were recruited. The first test in a 20-m walkway and the second in a 30-m walkway were performed. Demographics, spirometric data, physiologic variables (blood pressure, heart rate, respiratory rate, oxygen saturation), Borg dyspnea scale, number of turns, and 6-minute walking distance (6MWD) were recorded.

Results: Fifty subjects (92% men) were included: age 69.1±7.4 years, BMI 22.9±5.5 kg/m$^2$, FEV$_1$ 63.0±21.3%, and 50% having cardiovascular disease. The 6MWD in a 20-m and a 30-m walkway were 337.82±71.80 m and 359.85±77.25 m, respectively (P<0.001). Mean distance difference was 22.03 m (95% CI -28.29 to -15.76, P<0.001). Patients with a 20-m walkway had higher turns than a 30-m walkway (mean difference of 4.88 turns, 95% CI 4.48 to 5.28, P<0.001), as well as higher systolic blood pressure was found in patients with a 20-m walkway after 6MWT (4.62 mmHg, 95% CI 0.77 to 8.46, P=0.019). There were no differences in other physiologic variables and Borg dyspnea scale.

Conclusions: The walkway length had significant effect on walking distance in COPD patients. A 30-m walkway length should still be recommended in 6MWT for COPD assessment.

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